AMENDMENTS TO THE CLAIMS

1. (Currently amended) A microfluidic device comprising a microchannel structure in which there are ~~one,~~ two or more flow paths all of which comprises a porous bed I that is common for all of the flow paths, which bed exposes an immobilized reactant R that is capable of interacting with a solute S that passes through the bed, wherein at least one of the flow paths comprises a second porous bed II that is placed upstream of porous bed I and is dummy with respect to interaction with solute S but capable of interacting with a substance DS that is present in a liquid aliquot together with solute S and is capable of disturbing the result of the interaction between solute S and said immobilized reactant R.

2. (Previously presented) The microfluidic device of claim 1, wherein porous bed I and porous bed II are physically separated from each other.

3. (Previously presented) The microfluidic device of claim 1, wherein the upstream end of porous bed I is abutted to the downstream end of porous bed II.

4. (Currently amended) The ~~microfluidife~~ microfluidic device of claim 3, wherein there is a porous membrane between said upstream end and said downstream end.

5. (Previously presented) The microfluidic device of claim 1, wherein at least one of porous bed I and porous bed II bed is a packed bed of particles and the remaining porous bed, if any, is a porous monolithic plug.

6. (Previously presented) The microfluidic device of claim 1, wherein at least one of porous bed I and porous bed II comprises a solid phase material that is a size exclusion material.

7. (Previously presented) The microfluidic device claim 1, wherein the disturbing substance is smaller than solute S and that at least porous bed II in at least one of said at least one flow path comprises a solid phase material that is a size exclusion material having an exclusion limit delaying the disturbing substance from passing through porous bed II in relation to solutes.

8. (Previously presented) The microfluidic device of claim 1, wherein at least one, two or more of the remaining ones of said one, two or more flow paths is/are devoid of porous bed II.

9. (Previously presented) The microfluidic device of claim 1, wherein the porous bed II in said at least one, two or more flow paths comprises/comprise an immobilised reagent R_{DS} that is capable of interacting with the disturbing substance that is present together with a solutes.

10. (Previously presented) The microfluidic device of claim 1, wherein said at least one flow path is two or more flow paths and that R_{DS} in at least one of said two or more flow paths differs from R_{DS} in at least one of the remaining ones of said two flow paths.

11. (Currently amended) A microfluidic process carried out in a flow path of a microchannel structure of a microfluidic device <u>of claim 1, said process</u> ~~and~~ comprising transporting a liquid aliquot containing a solute S through a porous bed I that is placed in said flow path and exhibits an immobilized reactant R that is capable of interacting with solute S during the transport, characterized in comprising the steps of
    (i) providing said flow path in a form that comprises a porous bed II that is upstream of porous bed I and dummy with respect to interaction with solute S but capable of interacting with a disturbing substance DS,
    (ii) providing a liquid aliquot containing said solute S and said disturbing substance in said flow path in a position that is upstream of porous bed II,
    (iii) transporting the aliquot through porous bed II, and
    (iv) transporting subsequently solute S through porous bed I to allow for the interaction with reactant R.

12. (Currently amended) A microfluidic device comprising a microchannel structure that comprises ~~one,~~ two or more flow paths each of which comprises a porous bed I that is common for all of said flow paths and at least one of which comprises a porous bed II which is upstream of porous bed I, wherein one or both of porous bed I and porous bed II in said at least one flow path) comprises a solid phase material containing a generic ligand.

13. (Previously presented) The microfluidic device of claim 12, wherein the generic ligand in porous bed II in one or more of said at least one flow path are the same as in porous bed I.

14. (Previously presented) The microfluidic device of claim 12, wherein the generic ligand in porous bed II in one or more of said at least one flow path is an affinity counterpart (anti-ligand) to the ligand in porous bed I.

15. (Previously presented) The microfluidic device of claim 12, wherein said ligand is biotin or anti-biotins.

16. (Previously presented) The microfluidic device of claim 12, wherein there is only one flow path comprising both porous bed I and porous bed II.

17. (Previously presented) The microfluidic device of claim 16, wherein the downstream end of porous bed II is abutted to the upstream end of porous bed I, possibly with a porous membrane between the ends.